

Remarks

Applicant has amended Claims 1, 5, 6, 7 and 8. Applicant respectfully submits no new matter has been added by the present amendment. Support for the amendment can be found generally throughout the text, specifically at page 6, lines 3-7 and the Examples.

Applicants acknowledge the withdrawal of the previously recited objections and rejections.

Claim Rejection under 35 U.S.C. § 112

Claims 5-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended the claims as suggested in the Office Action thereby overcoming the present rejection and accordingly request withdrawal of this ground of rejection.

Claim Rejection under 35 U.S.C. § 102(b) or 103(a)

Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. § 102(b) as anticipated by or in the alternative under 35 U.S.C. § 103(a) as obvious over Oyama et al. (U.S. Patent No. 5,651,995). Applicant respectfully traverses this ground of rejection.

Applicant submits to anticipate a claim, the cited references must teach each and every element of the claimed invention, either explicitly or inherently. Applicant respectfully submits that "in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claims limitations. The teachings or suggestions to make the claimed combination and the

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reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure." See MPEP § 2142, citing In re Vaeck, 947 F.2d 488, 20 USPQ 2d. 1438 (Fed. Cir. 1991).

Applicant submits the present invention is directed to polymer composite comprising at least one, optionally hydrogenated, nitrile rubber polymer prepared as recited in Claim 1, having a Mooney viscosity (ML 1+4 @ 100°C) below 30 and a polydispersity below 2.7, at least one filler and optionally at least one cross-linking agent.

Applicant submits Oyama et al. does not teach each and every element of the claimed invention. Oyama et al. discloses a nitrile group containing highly unsaturated copolymer rubber which is the product obtained by hydrogenating the conjugated diene portion of an unsaturated nitrile conjugated diene copolymer. According to Oyama et al. the copolymer is produced by a process wherein an unsaturated nitrile monomer and a conjugated diene monomer are copolymerized in the presence of a free radical initiator (peroxide) by using as a molecular weight modified an alkylthiol compound. See Column 6, lines 25-51. Oyama et al. teaches that by adding the molecular weight modifier in lots in the course of polymerization a copolymer having a number average molecular weight smaller than 35,000 can be obtained. See Column 7, lines 18-29. Further, According to Oyama et al. the copolymer rubber can be used in vulcanizable rubber compositions and/or adhesive compositions.

Whereas the present invention is directed to composites comprising low Mooney, optionally hydrogenated polymers. The low Mooney optionally hydrogenated polymers of the composite of the present invention are prepared via a metathesis reaction in the presence of a metathesis catalyst. Accordingly, the present invention is directed to composites comprising at least one, optionally hydrogenated, nitrile rubber polymer having a Mooney viscosity (ML 1+4 @ 100°C) below 30 and a polydispersity below 2.7,

at least one filler and optionally at least one cross-linking agent. Applicants submit Oyama et al. does not teach or suggest a composite comprising a polymer prepared via the claimed metathesis reaction.

Therefore, Applicant submits Oyama et al. fails to teach or suggest each and every element of the claimed invention and accordingly, Applicant requests withdrawal of this ground of rejection.

Claim Rejection under 35 U.S.C. § 103(a)

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable by Fujii et al (WO 97/36956 believed to correspond to US Patent No. 6,489,385). Applicant respectfully traverses this ground of rejection.

Applicant respectfully submits that "in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claims limitations. The teachings or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure." See MPEP § 2142, citing In re Vaeck, 947 F.2d 488, 20 USPQ 2d. 1438 (Fed. Cir. 1991).

Applicant submits Fujii et al does not suggest each and every element of the claimed invention. Fujii et al discloses a nitrile containing copolymer rubber having a Mooney viscosity lowered via high shear in the presence of an aging inhibitor. According to Fujii et al, the rubber has a Mooney viscosity of 5-35 and a molecular weight distribution of

3-5. According to the teachings of Fujii et al. the Mooney viscosity of a highly saturated nitrile copolymer is lowered by 15 points or more by applying a high shearing force thereto in the presence of an aging inhibitor. See Column 1, line 64 - Column 2, line 8.

Applicant submits Fujii et al. fails to suggest composites comprising low Mooney, optionally hydrogenated polymers wherein the low Mooney optionally hydrogenated polymers of the composite are prepared via a metathesis reaction in the presence of a metathesis catalyst.

Whereas the present invention is directed to composites comprising low Mooney, optionally hydrogenated polymers. The low Mooney optionally hydrogenated polymers of the composite of the present invention are prepared via a metathesis reaction in the presence of a metathesis catalyst. Accordingly, the present invention is directed to composites comprising at least one, optionally hydrogenated, nitrile rubber polymer having a Mooney viscosity (ML 1+4 @ 100°C) below 30 and a polydispersity below 2.7, at least one filler and optionally at least one cross-linking agent.

Therefore, Applicant submits Fujii et al. fails to teach or suggest each and every element of the claimed invention and accordingly Applicant requests withdrawal of this ground of rejection.

Claim Rejection - 35 USC § 103(a)

Claims 6-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii et al. in view of Graefe (U.S. Patent No. 5,002,475). Applicant respectfully traverses this ground of rejection and incorporates the comments from above.

Applicant submits Fujii et al. in view of Graefe does not render the present invention obvious. As discussed in detail above, Fujii et al. **does not** teach each and every element of the claimed invention. Fujii et al. discloses a nitrile containing copolymer

rubber having a Mooney viscosity lowered via high shear in the presence of an aging inhibitor. According to Fujii et al the rubber has a Mooney viscosity of 5-35 and a molecular weight distribution of 3-5.

Whereas the present invention is directed to a process for the manufacture of a shaped article comprising the step of injection molding, a polymer composite prepared as claimed in Claim 1, comprising at least one, optionally hydrogenated, nitrile rubber polymer having a Mooney viscosity (ML 1+4 @ 100°C) below 30 and a polydispersity index below 2.7, at least one filler and at least one cross-linking agent. Accordingly, Applicant submits Fujii et al does not suggest the present invention.

Further, Applicant submits the deficiencies of Fujii et al are not overcome by combination with Graefe. Graefe merely discloses a reaction injection molding apparatus. Graefe does not suggest a composite as claimed or a process for the manufacture of a composite comprising a nitrile rubber polymer having a Mooney viscosity (ML 1+4 @ 100°C) below 30 and a polydispersity index below 2.7.

Accordingly, Applicant submits the combination of Fujii et al and Graefe does not teach or suggest the present invention. Therefore, Applicant requests withdrawal of this ground of rejection.

Provisional Claim Rejection (I)

Claims 1-9 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 12-14, 16 and 17 of co-pending Application No. 10/728,029. Applicant respectfully traverses this provisional rejection and notes Examiner's acknowledgement of the previously submitted arguments.

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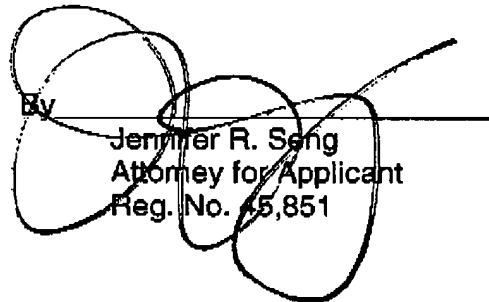
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Provisional Claim Rejection (II)

Claims 1-9 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-7 of co-pending Application No. 10/648,601. Applicant respectfully traverses this provisional rejection and notes the Examiner's acknowledgement of the previously submitted remarks.

Respectfully submitted,

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